40 YEARS OF EXCELLENCE

kinam

THE HEAT EXCHANGER SPECIALIST

KICC
The most efficient condenser

•

KIC BOX
CONDENSER

K-SPEX
Spiral Heat Exchanger

•

K-PEX
Plate Heat Exchanger

www.kinam.in

10,000 m² Factory at Ambernath, Thane, India

Mr. Aalap Patel, Mr. Mehul Mehta, Mr. Kirit Mehta, Mr. Himanshu Patel, Mr. Nilesh Patel, Mr. Harsh Patel

Since
1981

14000+
Installations

Innovative
Heat Transfer Technology

Specialist in Heat Exchanger made from
Exotic Materials

About us

Kinam Engineering Industries, a family owned business established in 1981 has built its reputation on the cornerstones of high quality products, customer satisfaction & superior service.

Fostered over by years of experience in both manufacturing and thermal designing of Heat Exchangers, Kinam has become one of the leading manufacturers of Shell & Tube Heat Exchangers (STHE), Corrugated Tube Heat Exchangers (CTHE), Spiral Heat Exchangers (SPHE), Plate Heat Exchangers (PHE) & Box Type Heat Exchangers.

Kinam has marked its presence across the globe by catering to its clientele in 22+ countries, with industries ranging from Chemical, Petrochemical, Fertilizers, Refineries, Pharmaceutical, Biotech, Oil, Paper, Steel, Cosmetics & Textile.

With extensive research and proven results, Kinam has developed the next generation heat exchanger "**KICC**". These exchangers are most efficient when it comes to condensing applications.

Innovative designs, new technological advancements, best in class manufacturing facilities and workmanship has enabled Kinam to deliver successfully 14000+ installations gaining trust of 500+ clients.

Kinam Engineering Industries joined hands with HLE Glascoat Limited, the leading manufacturer of process equipment. HLE Glascoat Limited is now the largest stakeholder in Kinam, this partnership will enable us to embark on a new chapter of expansion & innovation, helping us in transitioning to the next phase of our growth journey.

Kinam with its remarkable achievements continues to grow & be the leader in the heat transfer industry.

Quality, Performance & Committed Delivery

- a tradition at Kinam

Bay 2 - Heat Exchanger Assembly Bay

Mission

To become a Heat Transfer specialist and a one stop shop for the process industry by understanding the application and recommending the right heat exchanger to save maximum energy.

Vision

To keep developing energy efficient heat exchangers and revolutionise the heat transfer industry with consistent research and innovation.

Our Facility

Infrastructure

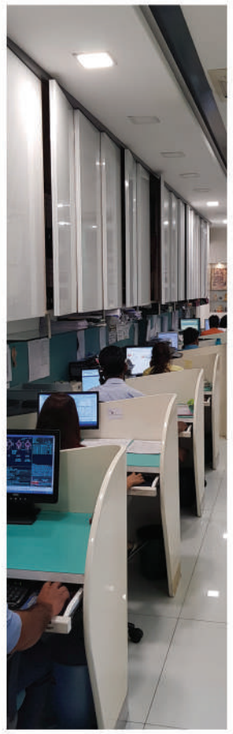
Total area under crane - 1,10,000 sq. ft.

Team strength - 350+ personnel

Heat Transfer area range - 1m² to 4000m²

Maximum weight handled per equipment- 100 tons

Design



Thermal design

HTRI

CHEMCAD 7

Mechanical design

PV Elite

Construction drawing

AutoCAD

GstarCAD

Proprietary Software

ProHE

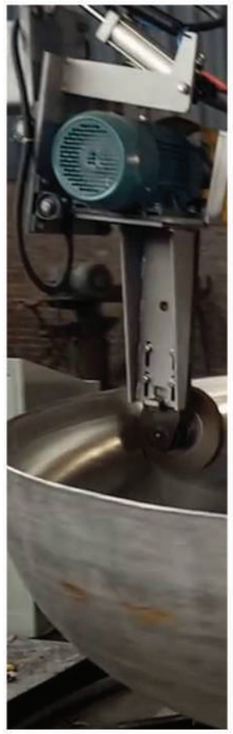
Cutting

CNC cutting upto 30 mm thick

Plasma cutting upto 100 mm thick

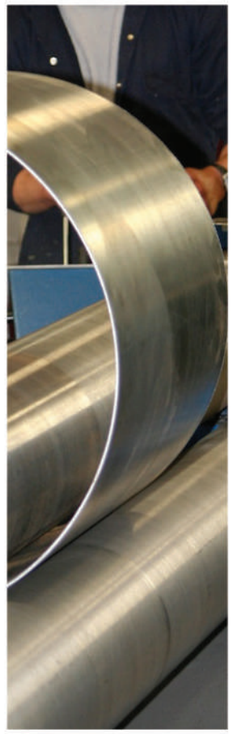
Laser cutting upto 16 mm thick

Dished End



Dished End forming upto 3 meter diameter and 25 mm thick

Rolling



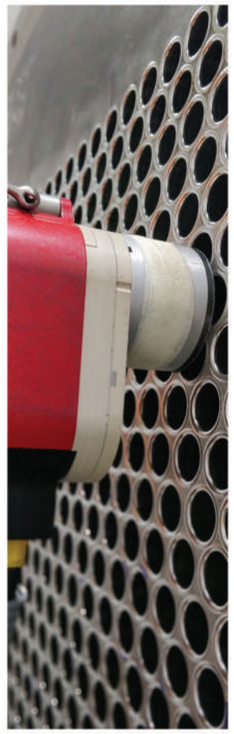
Maximum width 2.5 meter

Maximum thickness 30 mm thick

Drilling

Tube-sheet drilling upto 400 mm thick & 4 meter diameter

Welding



GTAW

SAW

Orbital Welding

Clean Room

1000 sq. ft Clean room for welding of Titanium

Shot Blasting & Painting Booth

Paint Booth
Size: 5m x 10m x 5m (W x L x H)

Shot Blasting Room
Size: 5m x 10m x 5m (W x L x H)

Testing

Hydraulic and Pneumatic testing

Vaccum testing

Helium leak Testing

Penetrant flow testing

Radiographic testing

Ultrasonic testing

PMI testing

Materials handled - Austenitic Stainless Steel (All 300 series) / Carbon Steel / Titanium / Hastelloy* / Inconel* / Monel*/ Nickel 200 / Cu-Ni Alloys / Duplex / Super Duplex / Alloy Steel

Construction Codes - TEMA / ASME Boiler & Pressure Code (Section VIII Div. 1) / PED & CE marking Under ASME, EN 13445, AD 2000

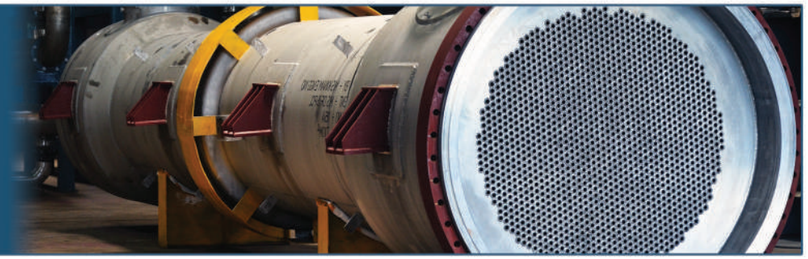
Certification - ISO 9001:2015, ISO 14001, ISO 45001, IBR, ASME U Stamp

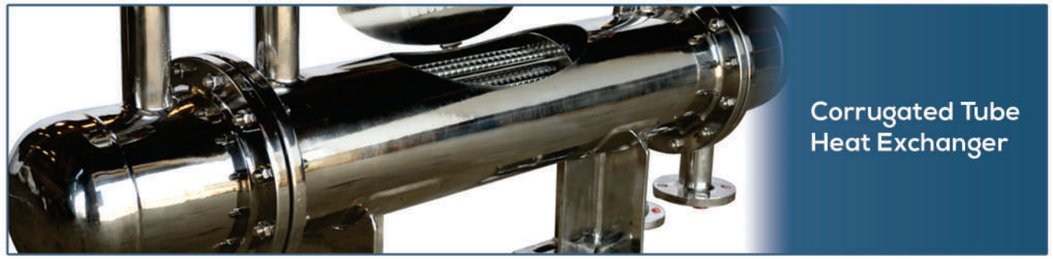
Factory Interior

Bay 1 - Material Inward and Pre-assembly Activities

One Stop Shop

Shell & Tube
Heat Exchanger





Corrugated Tube
Heat Exchanger

KIC-Box
Heat Exchanger

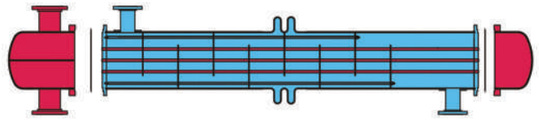
K-SPEX Spiral
Heat Exchanger

K-PEX Plate
Heat Exchanger

Shell & Tube Heat Exchanger

Construction Types

Fixed Tubesheet Type

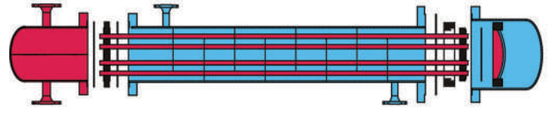


710 m^2 Tail Gas Heater

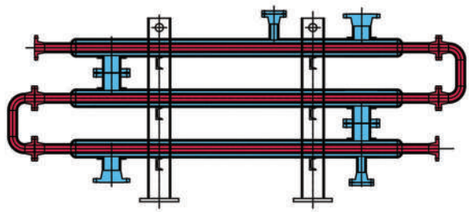
Fertilizer Company, Maharashtra, India

1458m2 Depropanizer Condenser
Floating head bundle of 4032 Nos. tubes, Weight: 55 Tonnes
Phenol Plant, Gujarat, India

Floating Head Type

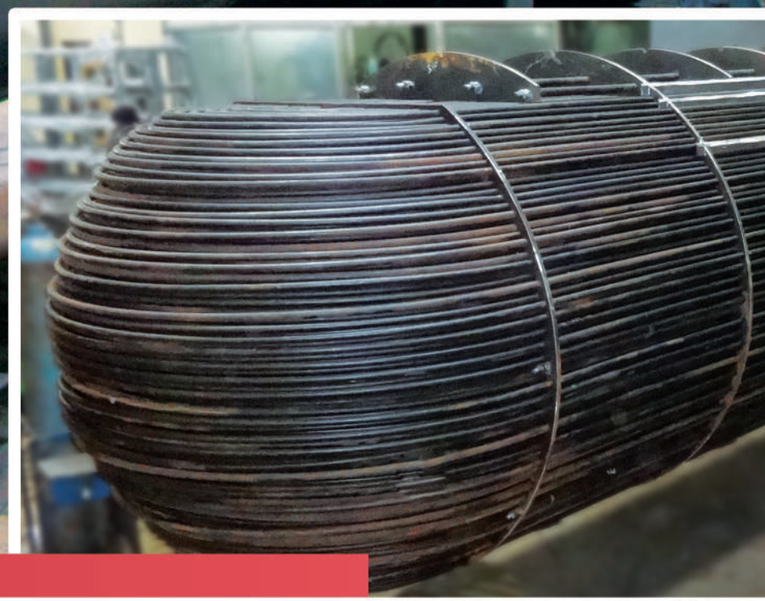


Double Pipe Type

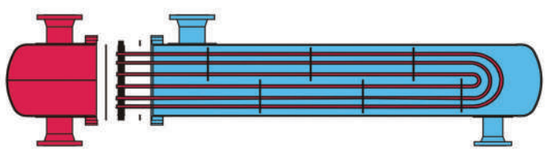


Sludge Heater For Non-Newtonian Fluid
Sewage Treatment Plant, Punjab, India

919 m² Propylene Feed Column Condenser
1280 numbers of U-Tubes. Weight: 46 Tonnes
Cumene Plant, Gujarat, India

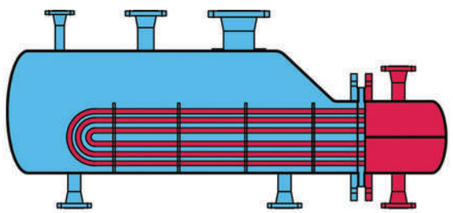


U–Tube Type



Column Kettle Reboiler
Rubber Chemical plant, Gujarat, India

Kettle Type



Hair Pin (*Removable Type*)

These Exchangers are suited for the process conditions with temperature cross, high temperature differentials, cyclic operation, high tubeside pressure & mitigate FIV

Polypropylene column bottom cooler,
Cumene Plant, Gujarat , India

KICC

The most efficient condenser

KICC Technology

Corrugations are produced by indenting the tube along the length in a helical pattern with the use of a special purpose machine designed for corrugation of the tube without thinning of wall or development of stresses in the tube.

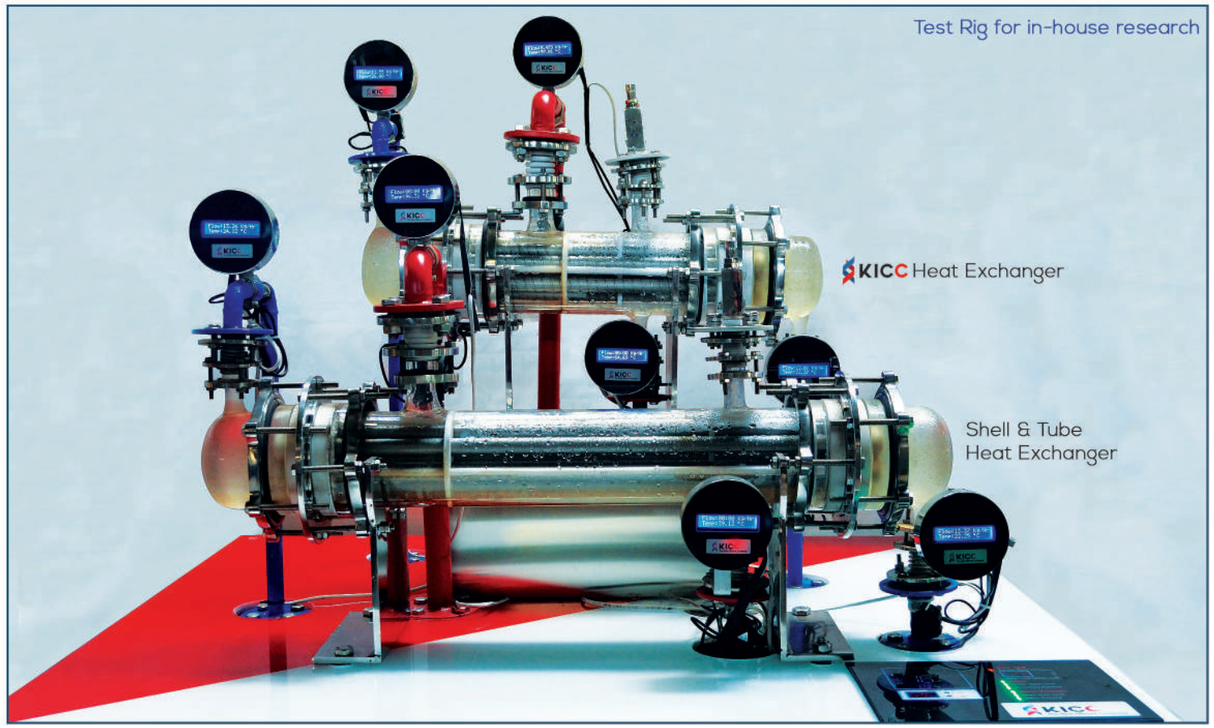
The helical pattern of the corrugations and the optimal depth of the indentation causes a two regime flow in the tube side fluid, spiral at core and eddies at the periphery creating turbulence even at a lower velocity of fluid resulting in higher Heat Transfer Coefficient.

KICC is the end-result of:

- Kinam's ongoing research and development.
- In-depth analysis of corrugation profiles and flow dynamics.
- Constant testing for various condensing applications.

What is New?

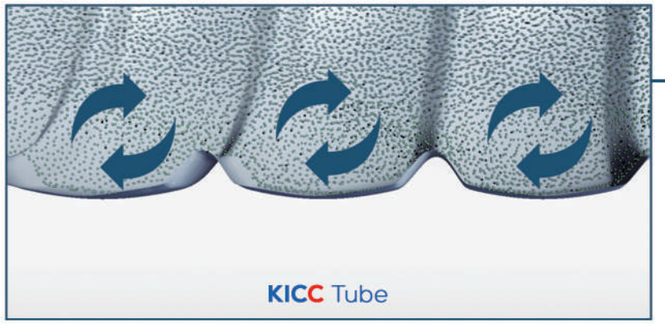
- New and improved corrugation profile for condensers resulting in even higher heat transfer coefficient.
- Compact and economical design, hence higher savings.
- Manufacturability in all exotic materials like Hastelloy, Titanium, Tantalum and Super Duplex Steels etc.



One of the test results of our extensive research had the following outcome:

Condenser Type	Shell side flow rates		Shell side Temp		Cooling Water temp		Tube length	No. of tubes	Heat Transfer Coefficient Kcal/h-m2-C
	Steam In	Condensate Out	Steam In	Condensate Out	In	Out			
STHE	13	12.2	98.75°C	97.9°C	23°C	33°C	570mm	7	423.8
KICC	13.2	12.5	98.75°C	96.75°C	23°C	32.6°C	300mm	7	1.9 Times x 423.8

Why KICC?

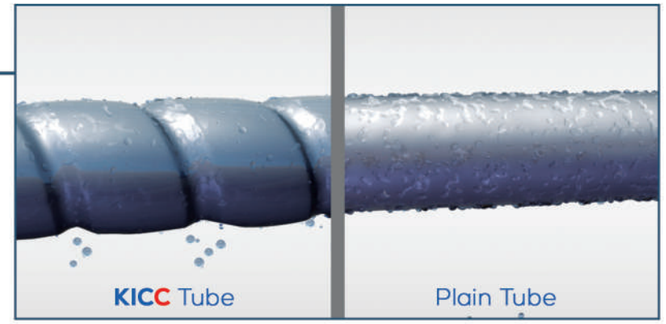


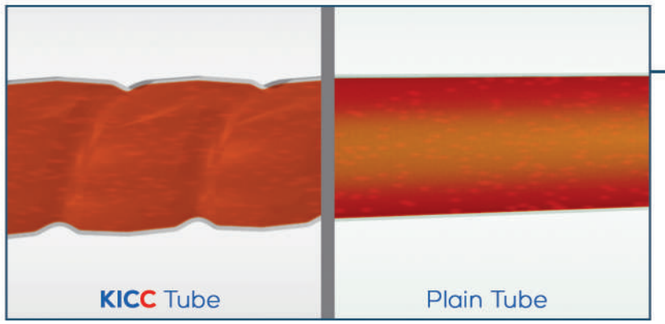
Higher Heat Transfer Coefficient

Turbulent flow inside the corrugated tubes due to it's helical indentation enables a more effective mixing & agitation resulting in a high heat transfer coefficient.

Drop Wise Condensation

Drop wise condensation resulting in better condensation compared to thin film formation in plain tubes. The corrugation provides a channel to the condensate layer formed on the surface of tube, always providing a fresh new surface for the vapours to condense.



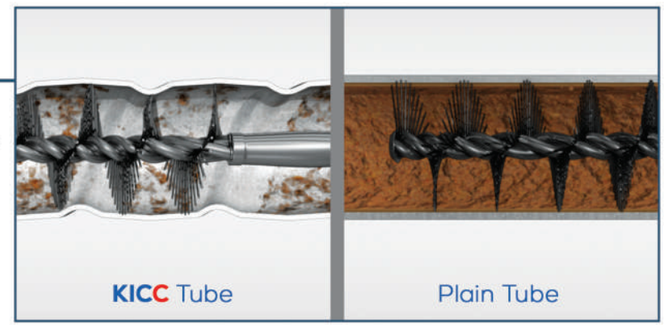


Equal Temperature Distribution

Even temperature distribution due to flow pattern, since new layers come in contact with the tube boundary.

Lower Fouling

Higher periphery turbulence does not allow the suspended solid particle in the tubes to settle, thus giving it a self-cleaning effect which results in reduced fouling that ensure longer running time. Easier to clean due to intermittent scaling as compared to Plain tube.



KICC combines best advantages of PHE and STHE

	Shell & Tube Heat Exchanger	Plate Heat Exchanger	KICC Tube Heat Exchanger
			
Heat Transfer Coefficient	Low −	High +	High +
Size	Huge −	Compact +	Compact +
Temperature Distribution	Non Uniform −	Uniform +	Uniform +
Fouling	High −	Low +	Low +
High Pressure Application	Yes +	No −	Yes +
High Temperature Application	Yes +	No −	Yes +
Maintenance Cost	Low +	High −	Low +

KICC Condenser for solvent recovery for a Pharmaceutical company

KIC BOX CONDENSER

Specially Designed For Pharmaceutical Industry

KIC-Box is your one-stop solution for all Pharmaceutical Condensing needs.

Integrated with new corrugated tube technology

KIC-Box Heat Exchangers replace the Primary and Secondary Condensers in a Solvent Recovery System.

Advantages:

- Compact Design: Reduced size of Heat Exchangers by 30-40%
- Economical: Up to 30-50% Savings
- Single Unit: One KIC-Box unit replaces both Primary and Secondary Condensers
- Fully Drainable: 100% Drainable on both sides
- Efficiency: Higher Condensation Efficiency through Cross Flow
- Cleanability: Higher Response to CIP Cleaning

K-SPEX

The Next-Generation Spiral Heat Exchanger

Kinam introduces its new range of Sophisticated Spiral Heat Exchangers.

Our Spiral Heat Exchangers are well suited for several industries Including Chemical, Petroleum, Petro-Chemical, Agrochemical, Pharmaceutical, Veg-Oil Processing, Paper Pulp, Paint, and Waste water treatment.

K-SPEX is Manufactured in the following Specifications:

- Fully Welded - For Clean Service
- One Side Openable - For Dirty service

Applications where Spiral Heat Exchangers are used:

- Liquid/liquid - Heating, pre-heating, cooling, interchanging
- Vapour/liquid - Top condenser, reflux condenser, vacuum condenser, vent condenser, reboiler, etc

Special Cases:

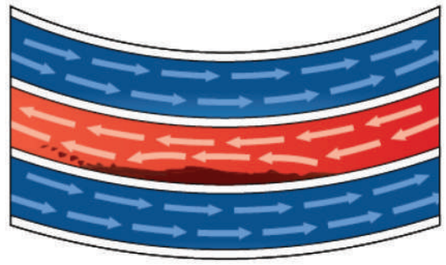
- Fouling liquids containing suspended solids and fibres
- Highly viscous liquids like thick liqueurs, slurries and sludges
- Heat recovery applications like Veg. oil heat recovery, black liquor/ white liquor, heat recovery, flash steam heat recovery, etc

Openable

Advantages:

Self Cleaning:

As the flow in K-SPEX is a fully developed turbulent flow, the continuous curving flow channel causes a self cleaning effect that prevents deposition fouling.



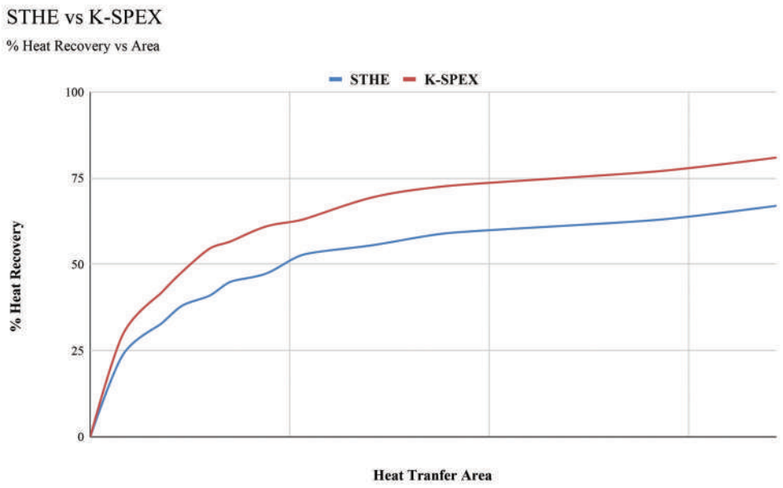
Self Cleaning Effect

High Heat Transfer Rates:

With studs and curvature of the single-channel promoting turbulent flow. K-SPEX can give twice the heat transfer coefficient when compared to Shell and Tube. A high heat transfer rate allows K-SPEX to be more compact in terms of area and volume.

High Percentage of Heat Recovery:

The continuously curved flow channels and studs produce high turbulence, thereby enhancing Heat Transfer Coefficient With practically 100% counter-current flow, K-SPEX has a high degree of heat recovery than the conventional STHE (Comparison of the 2 for reference as shown below).



Suitable for High Vacuum Applications & Highly Viscous fluids:

The single flow channel & reduced fouling result in achieving very low-pressure drops in vacuum operations K-SPEX's unique design and reduced deposition fouling facilitates efficient handling of highly viscous fluids with lower maintenance requirement in a compact size.

K-PEX
Plate Heat Exchanger

Reduce your CAPEX with K-PEX

What are PHE'S ?

A Plate Heat Exchanger is a type of Heat Exchanger that uses metal plates to transfer heat between two fluids.

The Plate Heat Exchanger facilitates the transfer of heat between two fluids, one cold and the other hot, by directing them through separate channels on different plates, sealed by gaskets to prevent any mixing between the two.

Thermally long plates
- High pressure loss
- High heat transfer value
- High turbulence output
- Larger chevron angle

Thermally short plates
- Low pressure loss
- Low heat transter value
- Low turbulence output
- Low chevron angle

The optimum plate type is selected on the basis of the temperature profile to be satisfied under maximum permissible pressure drop.

Range of Manufacturing

Item	Range
Plate Thickness	0.4-1 mm
Volume Flow	5-4500 m3/hr
Port Size	DN 25 to DN 500
Design Pressure	Upto 40 Bar
Design Temperature	-50 to 250°C

Materials of Construction

TYPES OF PHE

- Gasketed
- Semi - Welded
- Fully - Welded

GASKET:

- NBR
- EPDM
- Viton (FKM)

PLATE:

- SS 304 / 316
- SMO
- Hastelloy
- Titanium

Specialist in Heat Exchanger made from Exotic materials

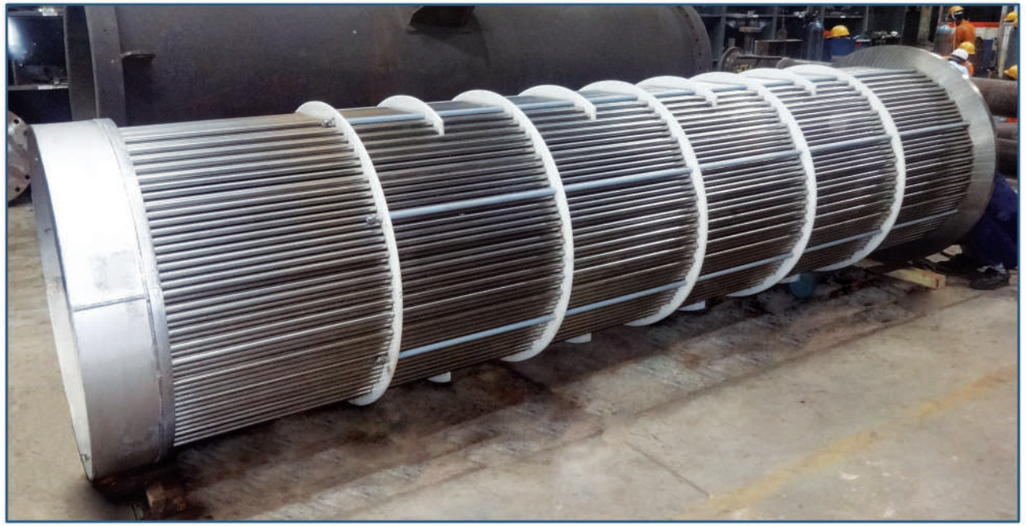
Materials handled: Titanium / Hastelloy* / Inconel* / Monel* / Nickel 200 / Duplex / Super Duplex / Cu-Ni alloys

Inconel 825 Heat Exchanger

Duplex Heat Exchanger with Titanium Tubes

Specialist in Heat Exchanger made from Exotic Materials

Titanium Tube Bundle for chlorine recuperator (With PP baffles)



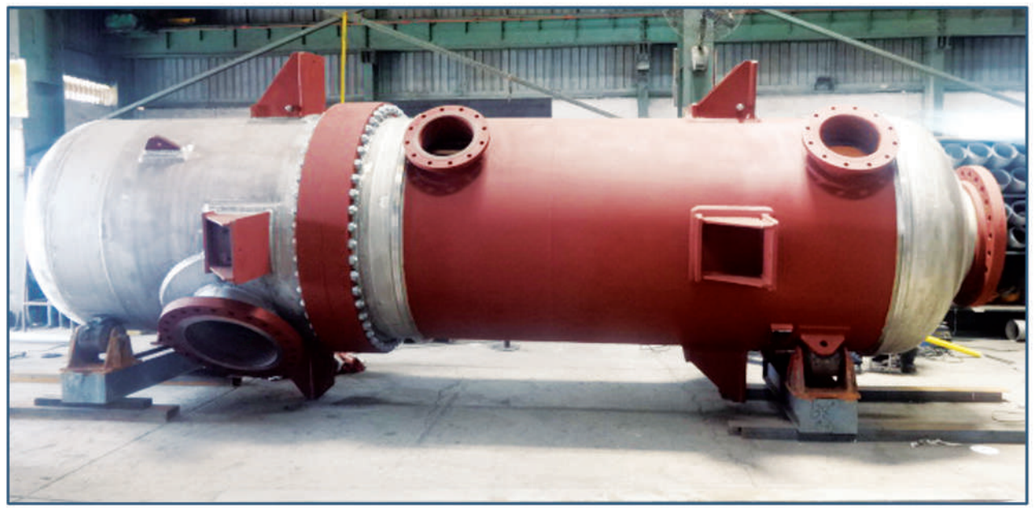
Titanium Corrugated Tube Heat Exchanger for De-salination Pilot Plant

Our 1000 sq.ft. State-of-the-Art Clean Room
to ensure top-quality welding of exotic metals.

Clean Room

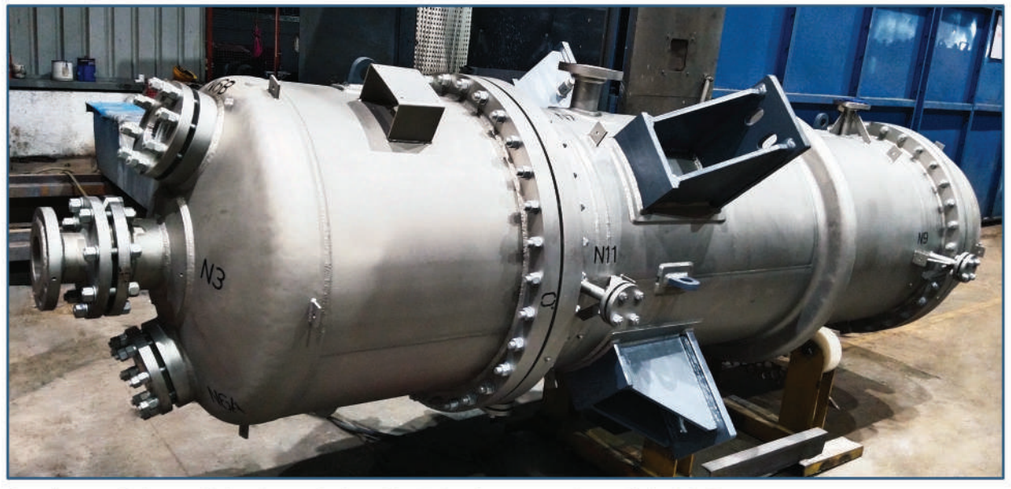
Orbital Welding of Titanium Tube to Tubesheet Joint

C-22 Condenser with Corrugated Tubes



C-276 Reboiler

Closed Cooling Water Heat Exchanger 1028 m^2 made of Titanium



Distillation Column Reboiler with Double Tubesheet made in Nickel 200

Recent Exports...

Falling Film Evaporator exported to Malaysia [DOSH Compliant]

Recent Exports...

Pre-heater 2200m^2
Operating Temperature - 900°c
MOC - Stainless Steel 310
Weight - 56 tonnes
Exported to Copper mine at Zambia

Special Application

Giant Inconel* Heat Exchanger
A Tubular Reactor Heat Exchanger
Made of Inconel* Alloy 600
Heat transfer area of 572 sqm

Special Application

Chlorine liquifier used in refrigeration process

Area: 635.4m2
No. of tubes : 1448
Weight 22 ton
Leakage class :DK1

Our Esteemed Clientele

Chemicals

ADITYA BIRLA GRASIM

ALKYL Alkyl Amines Chemicals Limited

Atul touching lives...

VINATI ORGANICS LIMITED

Gulbrandsen

NOCIL NOCIL LIMITED

NAVIN FLUORINE INTERNATIONAL LIMITED

Bostik

AARTI INDUSTRIES LIMITED

INDOFIL INDUSTRIES LIMITED

GaCL

SRF

CFS Camlin Fine Sciences

DEEPAK NITRITE

"Kinam has supplied us Titanium Heat Exchangers for Chlorine Recuperator and we are satisfied with their overall performance. Their Welding quality and finish in Titanium is remarkable and recommendable.

Mr. Nimai Panigrahi, GM Projects.
Grasim Industries Limited, Aditya Birla Group.

Petrochemicals

Reliance Industries Limited

KLJ

Deepak Fertilizers and Petrochemicals Corpn Ltd

HALDIA PETROCHEMICALS LTD

IndianOil

IGPL

Lubrizol

SPL SUPREME PETROCHEM LTD

"Kinam has been our essential partner, manufacturing Hastalloy& Inconel 600 Heat Exchangers for our critical process applications .Kinam has always displayed consistent performance in quality & timely delivery.

Mr. Roshan Adhikari, GM Corporate Planning,
Navin Fluorine International Limited

Fertilizer

GUJARAT STATE FERTILIZERS & CHEMICALS LIMITED

Coromandel FUTURE POSITIVE

MCF Mangalore Chemicals & Fertilizers Limited

UPL

G.N.F.C.

RCF

Pharmaceuticals

Cipla

LUPIN

Dr.Reddy's

HETERO

glenmark A new way for a new world

SANDOZ

Alembic Wishing you good health. Forever.

CENTRIENT Pharmaceuticals

indoco INDOCO REMEDIES LIMITED

Piramal

SANOFI

JUBILANT AGRI & CONSUMER PRODUCTS

"Kinam has been supplying Corrugated Tube Heat Hxchanger since last 7 years to our various plants at Dabhasa, Mandideep, Ankleshwar, Tarapur and Visakhapatnam. We recommend corrugated tube heat exchangers over the traditional shell and tube heat exchangers looking at the performance for our solvent recovery applications.

Mr. Prabhat Jain, Sr. Manager Projects,
Lupin Limited

Paints, Steel, Paper, Oil & others

JINDAL STEEL & POWER

Firmenich

CENTURY PULP & PAPER

vvf

Bombay Dyeing

asianpaints

TATA STEEL

Pidilite

"Kinam is a reliable manufacturer of plain and corrugated tube heat exchangers. Their focus and specialisation in heat exchanger products has helped to deliver quality, competitive price and performance.

Mr. ArunWaghmare, VP - Technology and Projects,
Pidilite Industries

EPC

thyssenkrupp

AkerSolutions

JACOBS

Worley energy | chemicals | resources

Tecnimont ICB

BLACK & VEATCH

Shroff ENGINEERING CONSULTANTS

MOTT MACDONALD

MAKE IN INDIA

Since 1981

Satisfying clients across 6 continents and 22+ countries

kinam
The heat exchanger specialist

OFFICE :

209, Champaklal Indl.Estate,
Next to Sion Telephone Exchange,
Sion (E), Mumbai-400022, India.
+91 - 22 - 46177687 / 88 / 89
www.kinam.in | sales@kinam.in

FACTORY :

M-4, MIDC, Pale Phase-III,
Industrial Area, Additional Ambernath,
Village - Pale, Taluka Ambernath,
District - Thane 421506.